CLAIMS

1 A method for processing shared sub-packets in a communication system, the method comprising:

generating a first control channel comprising an indicator that a traffic channel is to be shared and parameters of the traffic channel; and

generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station and information enabling the subscriber station to demodulate the traffic channel.

2 The method as claimed in claim 1, wherein said generating a first control channel comprising an indicator that a traffic channel is to be shared and a parameters of a traffic channels comprises:

generating a first control channel comprising an indicator that a traffic channel is to be shared and a number of subscriber stations sharing a unit of the traffic channel.

3 The method as claimed in claim 2, wherein said generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station and information enabling the subscriber station to demodulate the traffic channel comprises:

generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station and number of code channels encoding the unit of the traffic channel.

4 The method as claimed in claim 1, further comprising:

transmitting the first control channel at a power required by a subscriber station with the worst forward link quality metric for which the first control channel is intended.

5 The method as claimed in claim 1, further comprising:

2 transmitting each of the at least one second control channel at a power required by a subscriber station for which the at least one second 4 control channel is intended.

6 The method as claimed in claim 1, wherein said generating a first 2 control channel comprising an indicator that a traffic channel is to be shared and a parameters of a traffic channels comprises:

4 generating a first control channel comprising an indicator that a traffic channel is to be shared, a first number of sub-divisions of a unit of 6 the traffic channel, and a second number of subscriber stations sharing the unit.

7 The method as claimed in claim 6, wherein said generating at 2 least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station 4 and information enabling the subscriber station to demodulate the traffic channel comprises:

6 generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one 8 subscriber station and starting sub-division of the unit of the traffic channel.

8 A method for processing shared sub-packets at a subscriber 2 station, the method comprising:

demodulating a first control channel to determine whether a traffic 4 channel is to be shared;

determining a number of subscriber stations sharing a traffic 6 channel and multiplexing of the traffic channel in accordance with said demodulated first control channel if the traffic channel is to be shared;

8 demodulating a second control channel comprising identity of a subscriber station and information enabling the subscriber station to 10 demodulate a traffic channel; and

demodulating the traffic channel in accordance with said determined multiplexing and the enabling information if the acquired identity is identical to an identity of the subscriber station.

9 The method as claimed in claim 8, further comprising:

repeating said demodulating for another second control channel if the identity is not identical to an identity of the subscriber station and another second control channel is transmitted.

10 The method as claimed in claim 8, wherein said demodulating a first control channel to determine whether a traffic channel is to be shared comprises:

demodulating a pre-determined control channel.

11 The method as claimed in claim 8, wherein said demodulating the traffic channel in accordance with said determined multiplexing and the enabling information if the acquired identity is identical to an identity of the subscriber station comprises:

determining a size of traffic channel unit and a number of code channels in accordance with the enabling information if the traffic channel unit is code multiplexed; and

demodulate the traffic channel unit.

12 The method as claimed in claim 8, wherein said demodulating the traffic channel in accordance with the enabling information if the acquired identity is identical to an identity of the subscriber station comprises:

determining a number of sub-divisions of traffic channel unit and a starting sub-division in accordance with the enabling information if the traffic channel unit is time multiplexed; and

demodulate the traffic channel unit.

13 A method for processing shared sub-packets in a communication system, the method comprising:

generating a first control channel comprising an indicator that a traffic channel is to be shared and parameters of the traffic channel;

generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station and information enabling the subscriber station to demodulate the traffic channel;

transmitting the control channels;

demodulating the received first control channel;

determining a number of subscriber stations sharing a traffic channel and multiplexing of the traffic channel in accordance with said demodulated control channel;

demodulating a second control channel comprising identity of a subscriber station and information enabling the subscriber station to demodulate a traffic channel; and

demodulating the traffic channel in accordance with said determined multiplexing and the enabling information if the acquired identity is identical to an identity of the subscriber station.

14 The method as claimed in claim 13, wherein said generating a first control channel comprising an indicator that a traffic channel is to be shared and a parameters of a traffic channels comprises:

generating a first control channel comprising an indicator that a traffic channel is to be shared and a number of subscriber stations sharing a unit of the traffic channel.

15 The method as claimed in claim 14, wherein said generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station and information enabling the subscriber station to demodulate the traffic channel comprises:

generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station and number of code channels encoding a unit of the traffic channel.

16 The method as claimed in claim 13, further comprising:

transmitting the first control channel at a power required by a subscriber station with the worst forward link quality metric for which the first control channel is intended.

17 The method as claimed in claim 13, further comprising:

transmitting each of the at least one second control channel at a power required by a subscriber station for which the at least one second control channel is intended.

18 The method as claimed in claim 13, wherein said generating a first control channel comprising an indicator that a traffic channel is to be shared and a parameters of a traffic channels comprises:

generating a first control channel comprising an indicator that a traffic channel is to be shared, a first number of sub-divisions of a unit of the traffic channel, and a second number of subscriber stations sharing the unit.

19 The method as claimed in claim 18, wherein said generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station and information enabling the subscriber station to demodulate the traffic channel comprises:

generating at least one second control channel, each of said at least one second control channel comprising an identity of at least one subscriber station and starting sub-division of the unit of the traffic channel.

20 The method as claimed in claim 13, further comprising:

repeating said demodulating for another second control channel if the identity is not identical to an identity of the subscriber station and another second control channel is transmitted.

21 The method as claimed in claim 13, wherein said demodulating a first control channel to determine whether a traffic channel is to be shared comprises:

demodulating a pre-determined control channel.

22 The method as claimed in claim 15, wherein said demodulating the traffic channel in accordance with said determined multiplexing and the enabling information if the acquired identity is identical to an identity of the subscriber station comprises:

determining a size of traffic channel unit and a number of code channels in accordance with the enabling information if the traffic channel unit is code multiplexed; and

demodulate the traffic channel unit.

23 The method as claimed in claim 18, wherein said demodulating the traffic channel in accordance with the enabling information if the acquired identity is identical to an identity of the subscriber station comprises:

determining a number of sub-divisions of traffic channel unit and a starting sub-division in accordance with the enabling information if the traffic channel unit is time multiplexed; and

demodulate the traffic channel unit.